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NATURAL PRINCIPLES  
REGULATING  
RAILWAY RATES.

BY  
HERBERT L. LANSING.

CHICAGO:  
THE RAILWAY AGE PUBLISHING COMPANY.  
1887.

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# NATURAL PRINCIPLES

REGULATING

## REGULATING

# RAILWAY RATE

BY

GERRIT L. LANSING.

[illegible]

CHICAGO :

THE RAILWAY AGE PUBLISHING COMPANY.

1887.

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## PREFACE.

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The contents of the following pages first appeared as separate articles,—the first in the *North American Review*, for May, 1884, the second and third in the *Popular Science Monthly*, for February and March, 1886. They now appear for the first time in their proper connection, and so present the subject of which they treat in a more complete and, as it is thought, a more satisfactory manner.

Their present publication has been suggested by the enactment of the *Inter-State Commerce Law*. The general benefit or injury to commerce and the country which will result from the operation of that law, depends primarily and chiefly upon the interpretation which may be given to the sections relating to long and short hauls and discriminations; and particularly to the phrase, "*under substantially similar circumstances and conditions.*" To understand the circumstances and conditions affecting the traffic of railways, it is necessary to know the principles regulating their rates. Those principles governing the rates in all countries, whether the railways are operated by governments or private corporations, and which from the most diverse beginnings have come to a common end, may be fairly assumed to be natural principles which have become established from the necessities of commerce. Any law then, which fails to recognize these must inflict a public injury, and the just interpretation of any act upon the subject demands a full consideration of all the circumstances and conditions by which it is controlled.

The experience and the study of the writer leads him irresistibly to the conclusion that both the principles and practice of railways in fixing rates are as stated in these pages; that they are based on necessary conditions of commerce, and any law which should prohibit their operation, would work an injury alike to the railways and the people.

It is hoped that the discussion here presented may lead toward a better understanding as to rates that are fair and reasonable, and discriminations that are justified by differences.

G. L. L.,

SAN FRANCISCO, CAL.,  
March 3, 1887.

## I.—THE PRINCIPLES.

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Since the nations of the earth have been old enough to trade the control of commerce have been undertaken by the state. Its extension or restriction abroad, its development or direction at home, and its influence upon the wealth of the nation or the interests of classes, have all been thought proper objects for the exercise of the sovereign of authority. But commerce, if allowed to take its natural course, will, like all other movements of nature, follow the direction of the least resistance, and the tendency of state control has ever been to obstruct this natural channel without supplying others which were deeper or more direct. Control is always thus upon the verge of interference, and has ever been falling over the verge into the abyss below. This has been the experience of the world. From that experience we have constantly added to our knowledge of the subject, and as in one case after another the control has been shown to result in interference, producing the results it was invoked to prevent, the interference has been withdrawn, and in its place there has been substituted that control only which is exercised by the state over all property: protecting it in its proper use, and preventing its employment to the injury of others.

In all the transactions of trade experience has shown that as each one works for his own interests, he equally works for the greatest good of the greatest number; yet, as new problems present themselves in the advancing course of civilization, it seems to be the tendency ever to solve them by state interference. But the tendency of history is also to repeat itself in this as in other affairs of the world, and the injury resulting from the interference leads to its abandonment.

The railway systems of the world seem to many to afford a new problem. In the memory of men still living the first locomotive was run in the United States, while now there are about one hundred and twenty thousand miles of railroad in operation — nearly equal to the mileage of the rest of the world combined.\* The importance here of the railroad, entering as it does into

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\* At present, March 1887, there are about 138,000 miles of railroad in the United States.

every interest of the country, naturally results in a popular demand for a strict control of it by the law. When fifty millions of active people are every day affected by its operations, there must be frequent complaints and many injuries, whatever may be the principles of its management.\* Of these complaints many no doubt arise from an ignorance of the causes leading to the conditions complained of,—causes which are beyond the control of the railroad as they are of the state. For the cure of these real or imaginary ills the remedy at once suggested is state control; not by the redress or prevention of alleged injustice or oppression, or by a trial of specific cases on their merits; but by an effort to manage the whole policy and direction of the traffic of the railroads,—to fix their rates and direct their operations.

State interference in the management of railroads and the fixing of rates, is excused on the ground that they are not controlled, as are other commercial institutions, by competition. For a popular belief this is natural enough, for such judgments are generally based upon the information derived from a few uncertain facts, together with the misinformation spread by the politicians and a portion of the press. A close examination of the subject will, however, show that the rates are the product of competition, and are determined by the natural law of all commercial transactions which constantly tends to reduce profits to a minimum. Some of the natural forces which regulate the rates charged by the railroads I shall notice under the following heads:

*First.* Competition of capital.

*Second.* Competition of parallel railroads and water routes.

*Third.* Competition of markets.

*Fourth.* Efforts of the railroads to increase their traffic and net income by decreasing their rates.

*First.* It is an accepted maxim of economics that the value of money depends upon the relations existing between the demands for its use and the supply. This value, <sup>The competition of capital.</sup> represented by the rate of interest which is paid for its use, constantly tends to equalize itself throughout all countries and in all investments. The differences which exist in the rates of interest in various markets, are regulated by the abundance or the scarcity of capital in each, compared with the demand for its use. The differences which exist in the rates in any given market are determined by the greater or less certainty of the return from the

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\* The present population is estimated to be 60,000,000.

investments in which the capital is employed. The constant tendency is in all cases for the interest on the capital to come to a uniform rate where there are uniform circumstances of risk. It follows that under the free operation of the laws of trade, capital invested in railroads can not permanently, or for a long time, earn a higher rate of interest than capital invested in other ways where the uncertainty of return is not greater.

With the threat of governmental interference in the control of railroad tariffs, there is a new element introduced which largely adds to the uncertainties that exist to a greater or less extent under the natural conditions. The capital to be invested in railroad undertakings, therefore, demands the promise of a larger return than would otherwise be required. Such interference, when it is exercised for any other purpose than to redress wrongs and to prevent injustice, must always discourage the investment of capital in new lines which would afford further competition ; and a higher rate of interest will be demanded on all the capital invested in railroads before a new line will venture in the same field. Thus the competition of capital, though an indirect, is yet a powerful element in determining the rates charged by railroads. Capital is eager to locate itself where is the fairest promise of return. But if attacked or threatened, it flies from the place, and only the strongest inducements or most earnest promises can again lure it back to the distrusted locality.

Of the arrested development of railroads there have already been some conspicuous cases in the United States, for instance, in the great agricultural States of the west and north-west. These are some distance from the chief markets for their products, and the item of transportation thus becomes a prominent factor in the cost of production in those markets. It is natural that, under these circumstances, any charge that the rates of transportation were excessive would be eagerly received by the agricultural class. It was as natural that the politicians should use these circumstances to their advantage, and do all in their power to increase the misunderstanding between the farmer and the railroad. The farmer was urged to believe himself the miserable *villein* groaning beneath the oppressions of his feudal lord. He asserted his manhood by sending a champion of his independence to the Legislature. The conflict of natural forces in operation upon rates was interrupted, and the problems were supposed to be solved by counting heads in the legislative arena. In 1874 the principal laws were enacted and went into operation, which authorized the



state to fix the rates that private corporations and individuals should charge for the service of transporting or storing grain. In 1876 the constitutionality of the "Granger Acts" was affirmed by the highest court of the land. The effect of all this on capital is illustrated in the following statement of the miles of railroad constructed, as shown in the Report on internal commerce of the United States for 1880, issued by the Bureau of Statistics.\*

MILES OF RAILROAD CONSTRUCTED in Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, and Dakota, yearly, from 1872 to 1880, inclusive.

<i>Year.</i>	<i>No. of Miles.</i>	<i>Year.</i>	<i>No. of Miles.</i>
1872 .....	3086 .....	1877 .....	670
1873 .....	1130 .....	1878 .....	1254
1874 .....	509 .....	1879 .....	2465
1875 .....	357 .....	1880 .....	2915
1876 .....	550		

Of this period, the Commissioner of Railroads for Minnesota remarks as follows : †

"I came into office when railroad enterprise was paralyzed, and the general prosperity of the State at a low ebb ; when there was great animosity among the people toward the railroads. I felt it my duty to do everything I could to allay irritation and keep the peace between the people and the railway corporations, to the end that our large agricultural territory might get more roads. After an almost total suspension of railway construction in the Western and North-western States for three years (1874 to 1876), Minnesota was the first to resume building roads, and kept in the lead for several years, until we had substantially a complete system of trunk lines. There is, to-day, hardly a cultivated farm in the State from which the farmer can not drive to a railroad station and return in a day.

"I believe that the avoidance of legislative interference with rates, and the administration of this office in a way to encourage the further investment of capital in railways in this State, has had an appreciable influence in this progress and development. Now that we have so many powerful corporations competing for business, we are assured that branches and cross-lines almost indefinite will be constructed, giving in a few years to every locality the benefits of active competition, and the lowest practicable rates."

The great depression in railroad investment during this period of animosity toward the companies was, no doubt, to some extent the result of other causes. The feeling of the people, as well as the suspension of road building, were both, to a great extent, the effect of a common depression following unwarranted anticipations of great returns from all investments. Yet there can be no doubt that, other causes being removed, the threats and attacks

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\* Appendix, p. 187.

† Report 1881, p. 5.

of the time were sufficient to drive all movable capital from the field, and to warrant the prediction of Justices Field and Strong in their dissenting opinion, when the decision of the Supreme Court in these "Granger cases" was rendered. "The questions thus presented," they say, "are of the greatest importance, and their solution must materially affect the value of property invested in railroads to the amount of many hundreds of millions, and will have a great influence in encouraging or repelling future investments in such property."

While the attitude of the State toward railroads is of such a nature that no dependence can be placed upon its actions, the investment of capital in railroad building becomes an enterprise of a highly speculative nature. Great returns must therefore be promised to lure the capital into so uncertain a field. The State thus becomes, however unwillingly, the enemy of capital, delays the construction of competitive lines, and so tends, by its interference, to maintain higher rates of transportation.

*Second.* Competition of parallel lines, by water or rail, is the surest possible guaranty of the lowest rates and the best service. This is a generally admitted truth, and is proven by all experience. So important has this direct competition been considered, that a select committee of the United States Senate, on transportation, in 1874, prescribed it as the best remedy for the evils connected with the subject, which existed or were anticipated. In the conclusion of their report they say :

"We are unanimously of the opinion that the problem of cheap transportation is to be solved through competition, as hereinafter stated, rather than by direct congressional regulation of existing lines." \*

To effectively secure this competition, they recommend that the Government build and operate a double track freight railroad from the Mississippi River to the Atlantic Ocean; and tell us that if this road were used to its fullest extent, by having trains follow each other at intervals of half an hour, upon grades where thirty or thirty-five cars could be run to a locomotive, the charge on shipments in bulk, on such goods as western cereals, might not exceed seven and a half mills a ton a mile.† The rate on grain, quoted by the Committee, between Chicago and New York, in 1872, was twelve and one-tenth mills a ton a mile. The reduction

\* Vol. I., p. 242.

† Vol. I., p. 154. A table prepared by Edw. Atkinson shows the average rate per ton mile on the chief trunk lines for *all* freight traffic in 1872 to have been 1.475 cents, and, in 1885, .636 of a cent. (Ry. Age, 1887, p. 37.)

promised by the Government road was, therefore, four and six-tenths mills.

Congress has not seen fit to act upon the recommendation of the Committee, so the road has not been built. But by leaving the subject to private interests, not only has the danger which at the time was apprehended from the combination of the East and West trunk-lines not been realized, but the rates established by the Joint Executive Committee representing these lines, are now greatly below the rate promised by the Government road. The present tariff on grain and flour from Chicago to New York is twenty-five cents a hundred pounds, or five and four-tenths mills a ton a mile,—less than one-half the rate of 1872, and nearly one-third less than the low rate promised by the Government all-freight road.

This result has been accomplished chiefly through the competition of parallel routes by water and by rail; though we shall see that similar, if not as radical, results would be secured by other forms of competition, which are not commonly so well understood.

*Third.* Markets that are common to various points of production or supply control the rates from all these points by the competition which may exist with any one of <sup>Competition</sup> <sup>of markets.</sup> them. The lowest rate to the market by any route, controls the rates by all the other routes. This principle is well shown in the statement of the Manager of the Great Western Railway of England :

"It will fairly illustrate to you," he says, "the practice with regard to some of the grain imported into this country, if I explain the position of Birmingham and South Staffordshire, which is a comparatively small district of about twelve miles square, and contains a population of upwards of one million persons, and therefore consumes large quantities of foreign as well as home-grown grain, etc.

"This district can be and is supplied from Liverpool, a distance of ninety-eight miles; Gloucester, fifty-three miles; Bristol, ninety miles; Newport, ninety-eight miles; and Cardiff, one hundred and ten miles (taking Birmingham as the place to measure to). It will be seen that Gloucester is the nearest point, and as it is connected with Birmingham and South Staffordshire by river and canal navigation, as well as by railways, the cost of conveyance of American grain is cheapest from that place, and therefore the rates from Bristol, Liverpool, Cardiff, and Newport, have to be fixed so as to enable these ports to compete with Gloucester."\*

The cost of American grain is probably the same at each of these various points which may supply the market; so that the

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\* Spl. Rept. Dep. Agri. U. S., April, 1883, p. 5.

route having the longest haul can charge no more than the one having the shortest. Though they are not parallel lines, yet as they go to the same market they come directly in competition with one another.

The same rule aids in determining the rates on grain and provisions from various producing points in America to the seaboard, and the ocean rate from there to England. "The United Kingdom," we are told, "is the chief grain market of the world. All the Indian corn and about fifty per cent. of the wheat consumed in that kingdom is from foreign countries."\* In this market the chief competitors of the United States are Russia, Germany, Egypt, Australia, Canada and India. From the fields of production in the United States, then, the rates are controlled by competition with the different routes to the various countries mentioned. The rate from Odessa, on the Black Sea, to Liverpool affects the rate by sea from California, as well as by rail from Dakota.

Now, if the cost of production in Dakota were the same as in Germany, for instance, and the supply in either case were sufficient to meet the demand of Great Britain, the rate from Dakota to Liverpool would be the same as the rate from the place of production in Germany to Liverpool. If it were not as low, Dakota would send no grain to that market. If, however, as is the case, the cost of production in Dakota were less than in Germany, the rate from the former place would be such as to equalize the cost of production in the market. Now transportation is a part of the cost of production in the market. In the place where grain or any other raw material is produced, transportation is, of course, no direct element in its cost. But at the place of production it is worthless; it must be brought to market. That from necessity involves an additional expense, and this additional expense is a part of the cost of production in the market. This fact suggests the importance and power of the markets in regulating the rates of transportation. The cost of production, other things being equal, determines who shall sell and in what quantities. The selling price of a commodity is there determined by the competition of all sources of supply which the market has. These may be so close at hand that the transportation is an unimportant item; or may be in the place itself, in which case the transportation is no factor. To meet such competition the transportation company is compelled to fix its rates so low that the

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\* U. S. Inter-commerce, 1880, p. 175.

articles produced at a distance can be brought to the market at a profit to the producer.

This force of competition enters into the determination of the rates on nearly all commodities and in nearly all places. It operates most powerfully upon those things which are consumed in the largest quantities, since for these there is the greatest demand and the greatest competition in their sale. It tends to reduce to a minimum the rates on grain, provisions, and coal, and affects least the rates on silks, broadcloths and wines. It results in differential rates, which, while they cause complaint from some, are a source of the greatest benefit to the many. It produces competition between places where otherwise none exists; it brings competition to commodities which before were monopolies. And so, in its effect, by constantly tending to reduce the selling price, it restricts profits more and more and brings into stronger play the forces determining the cost of production. Hence, result an action and a reaction which continually tend to reduce the price of commodities to consumers.

*Fourth.* The fourth force regulating rates is found in the power which the railroad possesses of increasing its net income by increasing its traffic at lower rates. Reduction of Rates to increase traffic. The influence of this principle in the regulation of rates deserves more extended notice, as it more or less affects all rates of transportation,—of passengers as well as of freight, and between all places.

It is a principle of business generally understood, that more is to be made with small profits and large sales than with small sales and large profits. The wholesale merchant has a greater income, because his transactions are much greater; but the retailer receives a larger profit on the amount of the business he does. The lower rates of the wholesale merchants are, however, a result of economy in exchange and not in production. Cotton goods, for instance, whether sold at retail or wholesale, cost the same at the factory; and they must in any case be sold at an advance on this cost to realize any profit. But suppose the demand for cotton goods to be so limited that very small quantities were manufactured; while the factories, machines, engines, officers, and general expenses of all kinds, were the same as with a much greater production. Evidently the cost of production of a single yard of calico would be greatly increased. But supposing, on the other hand, by an increase of the demand tenfold, ten times the amount of cotton should be manufactured without requiring any

increase of factories, engines, machines, or managers, the cost of producing a yard would be greatly decreased. There would be a greater profit to the manufacturer now, we may assume, in selling the increased production at one-half the former price, than there would be with the former rate and the much smaller sales.

These considerations apply with much greater force to railroads. The manufacture of cotton goods may have but partial influence upon the demand, and unless the demand is increased an increase of the supply at lower rates would result only in a loss. There are times, too, as there are many things, in which the reduction of prices would make no increase of consumption, and would be at the expense of the manufacturer. With the railroad, however, the influences of all kinds of production, of manufacture, and of trade, are brought to bear. The increase of production, the establishment of manufactures, and the extension of trade into new fields, in all of its various forms and branches, constantly offer and urge upon the railroad an increase of traffic at lower rates. That such a decrease of rates, if accompanied by a corresponding increase of traffic, would produce larger receipts for the railroad is apparent enough. The important fact is that it does more than this,—it produces a larger net profit. This follows from the fact that the increase of traffic is not accompanied by a proportionate increase of expense.

Some of the expenses of a railroad are fixed, and remain unchanged by any increase or decrease of traffic. Such, for instance, are interest (a very large item) and administration. A much larger number are increased in a very slight degree by an increase of traffic; as superintendence, general offices, agencies, repairs of tracks, bridges, engines and cars, and other expenses of a similar nature. What other charges remain are increased by an increase of traffic to a somewhat greater degree, yet by no means in proportion to the increased business. An increase of traffic thus has no effect on large items of the expenses of a railroad; has but slight effect on other items which comprise the larger portion of the company's expenses; and affects in a somewhat greater degree, but still not in proportion to the increase of traffic, the remaining items. On the whole, it will be seen that an increase of traffic may be carried at a less rate and still afford a larger net profit. The following statement from experience illustrates this proposition:

**STATEMENT OF TONNAGE, RATES AND PROFITS OF FREIGHT TRANSPORTED BY THE  
ROADS NAMED IN 1875, COMPARED WITH 1880.\***

1875	Miles of Road.	Tons carried One Mile.	Rate per ton Mile Cts.	Freight Earnings.	Freight Expenses.	Net earn- ings from Freight.
Erie Railway.....	942	1,016,618,050	1.208	\$12,287,399	\$9,647,786	\$2,639,613
Pennsylvania.....	905	1,479,414,466	1.058	15,651,741	9,166,374	6,535,367
N. Y. Central.....	1,000	1,404,008,029	1.275	17,399,702	12,639,005	5,260,697
P. Ft. Wayne & C.....	468	491,289,899	1.111	5,480,511	3,371,945	2,068,566
Average .....	829	997,832,611	1.163	12,817,338	8,693,777	4,123,561
Average to one mile of road.....	1	1,203,651	1.163	\$15,461	\$10,497	\$4.974
1880						
Erie Railway.....	1,010	1,721,112,095	.836	\$14,391,115	\$9,188,297	\$5,202,818
Pennsylvania.....	1,120	2,298,317,828	.880	20,234,046	10,892,368	9,841,678
N. Y. Central.....	1,018	2,525,139,145	.879	22,199,966	13,670,884	8,529,082
P. Ft. Wayne & C.....	468	806,257,399	.91	7,359,452	4,069,097	3,290,355
Average .....	904	1,837,706,486	.876	16,046,145	9,455,162	6,590,983
Average to one mile of road.....	1	2,032,860	.876	\$17,750	\$10,459	\$7.291
Tonnage per mile.....	<div> <div>1875.....1,203,651</div> <div>1880.....2,032,860</div> </div>					
Rate per mile ...	<div> <div>1875.....cents 1.163</div> <div>1880....." .876</div> </div>					
Profit per mile .....	<div> <div>1875.....\$4.974</div> <div>1880.....7.291</div> </div>					

It will be noticed that the decrease of rates accompanied by an increase of tonnage has resulted in larger profits. This result may not have been attained by the voluntary reduction of rates on the roads named, as they were influenced, perhaps, more radically in a large proportion of their traffic by direct competition of parallel rail and water routes. But similar results have obtained everywhere, whether other principles of competition were also in force or not. The Central Pacific Railroad Company, for instance, is often mentioned as having very little competition for the greater portion of its traffic.† Yet we find here the same result. For the period of six years ending December 31, 1882,—the same time as shown for the above Eastern roads, but bringing the date down two years later—the rates indicate a similar relation to the volume of traffic, showing a steady decrease with the increase of business. As other forces of competition have here been in less active force than on the Eastern lines, the reduction in rates has been caused to a much greater extent through the

\* Compiled from Poor's Manual, 1881, pp. 39-45.

† The competition on this road caused by the completion of other transcontinental lines, has since been so great as to reduce through rates almost beyond reason.

efforts of the company to increase its traffic. And it will be noticed that the decrease between the first and last years of those given has been greater on the Central Pacific than upon the Eastern lines; while the increase of traffic has been greater on the Eastern lines than on the Central Pacific.

STATEMENT OF FREIGHT TRAFFIC, RATES, AND GROSS RECEIPTS FROM SAME, ON  
THE CENTRAL PACIFIC RAILROAD, FROM 1877 TO 1882, INCLUSIVE.

Year.	Miles of Road.	Tons carried one mile.	Tons carried one mile to each mile of Road.	Rate per ton per mile. cts.	Gross Receipts from Freight.
1877.....	1788 ..	358,982,087 ..	201,888 ..	2.71 ..	\$ 9,788,099
1878.....	2119 ..	392,281,712 ..	185,126 ..	2.75 ..	10,802,276
1879.....	2319 ..	449,580,783 ..	193,868 ..	2.43 ..	10,984,574
1880.....	2467 ..	565,063,768 ..	229,050 ..	2.34 ..	13,245,857
1881.....	2707 ..	733,285,889 ..	270,885 ..	2.16 ..	15,842,139
1882.....	3041 ..	902,981,309 ..	296,936 ..	1.81 ..	16,902,882

(Compiled from "Poor's Manual" for the different years, and verified by the Annual Reports of the Company.)

RATES.

East.....	{ 1875.....	100 per cent.	_____
	{ 1880.....	75 "	_____
Cent. Pac. {	1877.....	100 "	_____
	{ 1882.....	67 "	_____

TONNAGE.

East.....	{ 1875.....	100 per cent.	_____
	{ 1880.....	169 "	_____
Cent. Pac. {	1877.....	100 "	_____
	{ 1882.....	147 "	_____

The foregoing exhibit suggests the importance of the relation between the rates and the volume of traffic. Complaint is often made by those who have overlooked the importance of this necessary relation, that Western lines have higher rates than the Eastern trunk-lines; and the lack of direct competition of parallel routes is commonly assumed as the cause. Yet, when the volume of the traffic is taken into consideration in connection with the rates, it in many cases seems remarkable that there is not a greater difference in the rates than exists. The comparative relations of the tonnage, rates, and gross receipts from freight between the above Eastern and Western roads, for the last year mentioned, is as follows:

RATES PER TON PER MILE.

East.	_____
.876	_____
Cent. Pac.	_____
1.81	_____

TONNAGE PER MILE OF ROAD.

East.	_____
2,082,860	_____
Cent. Pac.	_____
296,936	_____



## GROSS FREIGHT RECEIPTS PER MILE OF ROAD.

East.	
\$17,750	_____
Cent. Pac.	
\$5,361	_____

It will be noticed that, notwithstanding the average rate of the Eastern lines given is about one-half that of the Central Pacific, the tonnage of the former is so much greater that the gross receipts amount to about three and a third times as much as with the Central Pacific. And by referring to the former statement it will be seen that the *net* earnings of the Eastern lines, per mile of road operated in 1880, were \$7,291; while the *gross* earnings (the net not being given) of the Central Pacific from the same source were, in 1882, \$5,361. The difference in this result would probably be to some extent equalized if the interest on the capital invested were taken into account, many of the Eastern lines having double tracks, and a larger equipment being required to transport the much greater tonnage. But taking into consideration all causes of difference which may occur to the mind, the result is apparent enough that the higher rates of the West are a necessity of the much smaller traffic.

The fact, then, becomes apparent that the reduction of rates will increase the profits of the railroad if accompanied by a corresponding increase of traffic, for an increase of traffic reduces the ratio of expenses; so that the greater the traffic becomes the greater is the profit. Now, by limiting the profit of producers, or increasing the price to consumers, the production and the traffic are equally limited; the general wealth and the profits to the railroad are both restricted. It follows from the necessity of these relations that an increase in the profits of the railroad is not at the expense of the community, but is an accompaniment of that general increase of wealth which has been made possible by the lower rates of transportation.

All of these natural principles regulating rates urge the railroads to increase their traffic, as by this means the greatest profits are secured. The possibility of a large traffic offers the greatest inducement to the capitalist to construct new roads; it gives rise to the most active competition between existing lines; it increases the competition in the markets, and it affords always the strongest incentive for the railroads to reduce their rates, if by this means their existing traffic may be increased. The natural principles regulating rates are, therefore, competitive forces; the railroads are everywhere

Results of  
natural forces  
of competi-  
tion.

bidding for the business, and where there is the greatest amount of business, there the bidding is most active. So, where there is the least traffic there is the least competition. This produces an important result. The rates are lowest where the greatest quantities are moved, and highest where there is the least traffic. As the decrease in the rate of expense bears an approximate proportion to the increase of the amount of traffic, the connection between low rates and a large traffic is justified on the ground of cost, as well as by the necessities of commerce.

But there is an incidental result which is important to note. The greatest traffic is possible in those things which are produced in the largest quantities, and for which the demand is practically unlimited. These, therefore, have the lowest rates. They constitute, primarily, the necessities of life, which are consumed by all; and, secondarily, the cheaper articles which are the common comforts of the poorer classes. As commodities become more and more expensive, they become confined to a smaller class, their consumption becomes, therefore, more restricted, and the incentive to the railroad to carry them at lower rates is reduced in the same degree. These natural principles affect the rates of transportation exactly as similar laws of competition in trade affect prices. They tend constantly to cheapen, first, the necessities of life; second, the comforts; and last and least, the luxuries. Does not this result in the greatest good for the greatest number?

Controlled by these natural forces of competition, the proprietor of the railroad constantly works to advance the interests of the patron. In seeking to increase the earnings of the corporation, he does not increase rates; but in virtue of the common principles of commerce by which he is bound, the tendency of rates as of prices is ever toward a minimum. In seeking to advance his own interests, he works equally to advance the interests of the shippers, and so of the community at large. This result, which is recognized by the Railroad Commissioners of Iowa, is seen everywhere.

"Our people," they say, "are directly the beneficiaries of a steadily and continually falling rate. This reduction of rates is not confined to the through traffic; it applies — in a somewhat smaller ratio, it is true — to the local traffic as well, which is demonstrated in tables further on, prepared from reliable data by the Commissioners. What it is that has produced these reductions in charges is a question rather for the economist; it suffices to be able to point them out and to know that they are welcome tidings alike to producer and consumer."\*

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\* Report, 1881, p. 7.

The railroad can not lessen its traffic without reducing its profits; it can not restrict the development of its traffic without limiting its profits. To injure the shipper or interfere with his interests, the railroad must equally injure itself. Is it not, then, safer and better to leave the regulation, classification, and establishment of rates with the proprietors under the control of these natural forces, than to delegate it to a legislature or commission, whose interests in its proper execution are relatively slight, and whose information at the best can not be compared to that of those who make it the business of their lives? This leaves great power with the corporation, it is true, but the power is in the property. To shift the control from owners to commissioners, only shifts it from the responsible and interested to the irresponsible and non-interested. It does not remove it; that can only be done by removing the road.

The interests of the community and of the railroad equally require the greatest possible extension of trade; the greatest possible movement and exchange of commodities. The control of trade by the state, through directing the management and fixing the rates of railroads, must result, as similar efforts have resulted in the past, in interference, in restriction, instead of extension; in an injury instead of a benefit. The best possible results to all will follow where there is the freest operation of the natural forces of competition.

## II.—THE PRACTICE.

### DISCRIMINATIONS AFFECTING PERSONS AND THINGS.

The term discrimination, in its application to railroad rates, seems in the minds of some to have lost its original and true meaning—the act of distinguishing between things which are different. In the general affairs of life, the ability to discriminate is as commendable as the lack of its discreditable. There appears no reason why the reverse of this should be true when applied to transportation. There must always be differences which fairly affect rates, as competitive routes and markets, the bulk and value of commodities, and the volume of the traffic. These differences demand recognition and require discrimination in fixing rates; but there should be no discrimination without a difference. This would afford a profit to a favored few, but would affect an injury to the many, and is therefore unjust.

It is asserted by transportation companies that such discriminations as they practice result from the differences which exist, and, though they may sometimes cause an injury to a few, they effect a much greater benefit to the many. The difficulty in the question is right here: The decision as to what is a sufficient difference to fairly require a discrimination in its favor must be decided by the fallible mind of man. Differences of interest and so of opinion are therefore more frequent than differences of traffic. We may readily believe their statement, that the railroad managers are constantly besieged by the representatives of various places, trades, occupations and interests, asking for concessions in rates that are not granted to others. Each claims some peculiarity of situation or circumstance which justifies some concession. It is natural also that most of these claims should be based on interest rather than on principle. The railroad manager is prone to this view, as the interests of the property under his charge are certainly not advanced by building up the trade of one place or person by giving lower rates than are allowed to others similarly situated. These differences of opinion, it seems, must always continue to exist as long as there are different interests in commerce and different circumstances affecting production and trade. The decision



as to the differences, too, must always be made by man; and the government official in Germany, France, Italy, Spain and other countries of Europe where there is state ownership of railroads, has caused even more complaint by his rulings than has the manager of the private corporation in the United States.

That discrimination may be fairly and legally exercised has been decided by the courts, while most of the States prohibit unjust discrimination. An act of the Legislature of Illinois of July 1, 1871, "was pronounced unconstitutional by the Supreme Court of the State, because in its operations it was not in express terms directed against *unjust* discriminations, but against discrimination generally."<sup>\*</sup>

Such discriminations in rates as result from the operation of the railroads under the control only of the requirements of commerce and the interest of the corporations can not be unjust in the sense of political economy, can not affect injuriously the interests of the community at large, but, on the other hand, must always work for the advancement of the common good.

The causes of discrimination will be found in the principles regulating rates. That there are some natural principles is shown from the fact that in all parts of the world where railroads have been built, the same questions arise from the dissatisfaction of communities, interests and trades; the same charges of unjust discrimination are made, and the same remedies have been applied of legislative restriction and interference. To this we may add that there has been everywhere the same failure of these remedies to <sup>Just discrim-  
inations  
recognized by  
governments.</sup> affect the result desired. In the older localities the earlier rule of interference has been gradually withdrawn, as the common commercial law of self-interest has been found to produce the best results; and as the populations of newer communities have increased, their interests have become more established, and their experiences enlarged, they too tend toward the path followed by the older places. Italy, after an examination of the subject by a special commission, which was continued several years, decided to lease the Government railways to private corporations to operate. Switzerland, upon reviewing the experience of the other States of Europe, declined to exercise the right granted by the charters of the railway companies, that after a certain time the Government might purchase and operate the roads, deciding that it would neither profit the State nor benefit the people.† M. Léon Say says of the Government operation

<sup>\*</sup> "Report of Railroad Commissioners of Illinois," 1876, p. 17.

† "Herapath's Journal," Loddon, April 28, 1883, p. 518.

of the railways of France, "The failure is complete and irreparable."\* And M. de la Gournerie, Inspector-General of the French Corps of Bridges and Highways, concludes a review of the subject of railway rates as follows: "I have sought to combat the widely spread opinion that, in the commercial operations of railroads, everything is artificial; that instead of observing, we must invent; that instead of habitually leaving the different interests to react upon each other through supply and demand, it is necessary to be regulating continually. If we were certain that the men who manage railroad business would always have a perfect understanding of these questions, my conclusion would be to leave the matter to them entirely; but the companies enjoy too great power for us to resign ourselves to endure tranquilly the consequences of their errors. I think, then, that the State should preserve its powers, watch attentively, but prescribe little."† The other countries of Europe have in general gone through similar experiences and arrived at the same conclusions, and, following the enlightened lead of the Railroad Commission of Massachusetts, the tendency in the other States of the American Union is undeniable also in the same direction of *laissez faire*.

In the transaction of trade, exchange is effected, not because one party demands it, but because both believe it to be a benefit. Neither can demand what the other considers it his interest to refuse. Transportation is limited in the same way by the same requirements. The limit on one side is fixed by capital and is the *total cost of all the service performed*. If the roads are not able to secure enough traffic at prices which will pay the expenses of operation and a fair rate of interest on the investment, capital will no longer be invested in their construction. If they persistently fail to earn the ordinary expenses of operation, and so remain a constant tax upon the proprietors, they must ultimately be abandoned. The reduction of the charges can not permanently be so low that the income is less than the expenditure. *The value of the service* to the shipper fixes the opposite limit to the reduction of charges. Here the rule applies to each shipment and at once. The shipper knows with considerable exactness the elements which enter into the cost of the commodity and the price it will bring in the market. He can at once determine then whether or not its transportation will afford him a profit. If it will, it is sent. If not, it remains where it is. With the rail-

\* "Railway Age," 1882, p. 735.

† "Report of Commissioners of Transportation," California, 1877-'78, p. 73.

road, on the other hand, the cost of no single shipment can be determined. It is carried on a freight train, which also carries many other shipments consigned to many places. The same train often carries emigrant passengers, and is run over a track which is also used by passenger trains. Besides these elements, there are large expenses incurred by the company of which an indefinite amount is chargeable to the various classes of traffic performed. It is thus a matter of impossibility to say what will be the cost of any particular shipment, and it is even a matter of extreme uncertainty to state the cost of the various classes of traffic each by itself—as passengers, freight, express, or mails. The only course then left to the railroad is to take the freight at whatever rate the shipper can send it with profit to himself and hope the whole of its traffic will amount to a greater sum than the cost of the service. The railroad may thus for years continue carrying freight at rates which do not cover the cost of the service, while the shipper will immediately stop his freight as soon as its transportation ceases to be remunerative to him. The rates can in no case be more than the value of the service, but they may be less than its cost. Between these two limits, the former of which ultimately determines the point below which no rates will be held, and the latter of which immediately determines the point above which no freight will be sent, there is in practical operation a varying scale of rates determined by competition both of parallel lines and various commercial forces.

These competitive forces, as has already been shown, are competition of capital, of parallel railroads and water routes, of markets, and the efforts of the railroad to increase its net income by increasing its traffic with lower rates. Wherever there is a fair discrimination exercised in fixing rates, it will be found to be based on one or more of these forms of competition. This is a fact of the first importance, for, as competition is generally conceded to be a more potent regulator of prices than all other forces, to prohibit discriminations resulting from it will also prohibit competition. All forms of discrimination in the rates of transportation which are fairly exercised we may class under three heads—namely, those which favor persons, places or things.

Discriminations which are exercised in favor of persons in the transportation of freight will be found to be not in favor of the person but of the freight. In fact, <sup>Discriminations favoring persons.</sup> personality has no part in it, but the concession is caused by the circumstances of locality or the kind or volume of the



traffic. For instance, the farmers of the West and Northwest are systematically and greatly favored in the shipment of their products to the market. Grain and provisions are carried from Chicago to the seaboard at a discrimination in their favor of at least three to one as compared with the shipments by merchants, manufacturers and others. But as without this concession the farmer would have no market for the greater part of his crop, and as it cheapens the cost to consumers of the staff of life, it is, though a discrimination, a subject of no complaint. The same remark applies to dealers in coal, lumber, petroleum, and all other things produced and consumed in large quantities. Such rates, however, should be open to all under similar circumstances; they can not fairly be affected by the personality. Where the circumstances of situation, kind, and quantity are the same, to give lower rates to one person than to another is, in most states, illegal as well as unjust. It tends, by preventing competition in trade, to maintain prices, and so to limit consumption and restrict traffic—a result directly opposed to the chief end for which all railroad managers are striving. I can conceive of no case in which a railroad would grant one shipper privileges not accorded to another where the circumstances of the traffic were the same, except it were as a gift and not in the line of a business policy; that is to say, the advantage given would be at the expense of the railroad.

In the transportation of passengers, however, differential rates are made which more nearly approach a discrimination as to persons. Yet, in this case, too, we will find that the different rates are caused by a difference in the traffic, and that, under like circumstances, rates to all are alike. With passengers a discrimination based on the volume of the traffic results in excursion rates, round-trip tickets, commutation, season and thousand-mile tickets, and the like, familiar to all. For instance, in California, from San Francisco to the suburban towns of Alameda, Oakland, or Berkeley, a distance in each case of about ten miles, the passenger may buy a trip-ticket for fifteen cents, a round-trip ticket for twenty-five cents, and a sixty-ride ticket for three dollars, or at the rate of five cents a trip. The rate per mile would be, in the several cases, a cent and a half, a cent and a quarter, and a half a cent respectively. Though here is a discrimination, in the proportion of three to one, yet its fairness is not only popularly conceded, but the Constitution of the State especially provides that "excursion and commutation tickets may be issued at special rates."\*

\* The same principle is specifically recognized in the Inter-State Commerce Law, Sec. 22.



The question, as popularly put, here arises, "On the ground of fairness, why should one person in the same train, between the same points, pay three times as much fare as another?" The highest of these fares—a cent and a half a mile—is much lower than the average rate of fare charged in the United States or on the remaining portions of the same road. It is certainly not, then, unreasonably high. But the reason it is lower than in the average of cases is that the ordinary traffic between the points in question, excluding that at special rates, and the possibilities of its development, are sufficient to warrant it. As to the traffic carried at the special rates, it could not be obtained without the special concessions. And, the road being built and the trains running, the *extra* traffic may be carried at a fraction of the average rate of cost for the *whole*. There is thus a profit under the circumstances on this traffic at the special rates, and, as it is developed and increased by the concessions made in its favor, it helps to pay more and more of the fixed expenses which were in force before its existence, and so by relieving the regular traffic of a portion of its burden of expense makes possible also a reduction in its rates. The reason for the discrimination, then, results from its necessity to secure the traffic; the common reason in all cases of lawful and fair discrimination. If, by an equalization of these rates, their averages were established as the rate for the whole, the daily passenger who now pays ten cents a day for his fare from his home to his place of business in the city and return would then be compelled to pay twenty-two cents. It is certain that in the greater number of cases he would not do this. Now, with this suburban traffic, as with all other traffic, the rates decrease as the volume increases—other things being equal—and, as the rate of expenses per passenger also decreases under the same conditions, the differential rates are justified on the ground of the cost of the service, as well as from the necessity of the traffic. The very much greater portion of the suburban traffic is from the passengers who travel daily, a much smaller portion from those who purchase round-trip tickets, and the remainder from those who make an occasional single trip. The rates are thus inversely to the volume of the traffic. The highest *rate* is paid by those who pay very few *fares*, and the lowest by those who pay the largest number. This is a distribution of the burden of the expense which causes it to be felt the least; and it results in giving the benefit in the fares to those who by increasing the traffic cause the reduction in the rate of expense.

That the suburban passenger traffic throughout the United States is carried at lower rates than any other is a familiar fact, explained by the possibility of development and justified by its much greater volume, which is accompanied by a lower rate of cost per passenger. Where the volume of the traffic is less, the rate and the cost per passenger are alike greater. This rule holds good throughout, other things, of course, being equal. In the minority report of the Railroad Commission of California for 1883 (pp. 137-140), which is extremely hostile to the railroads of that State, it appears that the lowest passenger rates exist where there is the greatest traffic, and that "between all the thickly settled portions of the State" the rates are considerably lower than prescribed by the orders of the commissioners. An appended table in the same report shows that during the year 1881 the principal railroad company in the State had forty-six stations from which no passengers were carried, sixty-two from which the daily average was from one passenger each two days to one in thirty days, and there were forty stations to which no tickets were sold. It is in these cases, the report explains, that the highest rates prevail.

It thus appears that the discriminations which may be fairly exercised as to persons are not affected by the personality, but by the traffic. Like rates under like circumstances to all is certainly the common rule in experience, and in nearly every State any violation of this is properly prohibited by law. The railroad takes no cognizance of the person, but exerts all its efforts toward developing the traffic. The passenger who pays a cent and a half per mile for a single-trip ticket may, if he chooses, buy a sixty-ride ticket at one-third that rate. The possibility of traffic depends upon population; it is greatest between cities and their suburbs, and least on the sparsely settled plains and mountains of the West.

The discriminations which are popularly supposed to favor persons in transportation of freight, it will appear, are in a similar way caused by the traffic and not by the person. Some of these depend on the difference between things, the remainder on the differences in the situation of places.

There are some discriminations between things the justice of which will at once be recognized, as there is an obvious difference between them. Light and bulky articles occupying an unusual amount of space should, if charged by weight, be charged at a higher rate than more compact things; fragile articles involve a greater loss to the railroad

Discrimina-  
tions favoring  
things.

from breakage, which entails a greater average cost in their transportation; and valuable commodities being more frequently stolen, and as frequently lost, entail an extra rate to cover the insurance while in transit which is assumed by the carrier. But, aside from these obvious differences of bulk and value, which justify a difference in rates, there are other discriminations between things which will be found to be chiefly based on the volume of the traffic and the possibility of its development.

On examination we will find that the discrimination in these cases also is justified by a difference in the cost of the service. Large quantities are moved at a lower rate of cost per ton per mile than are smaller quantities. A car fully loaded to one consignee is carried at a great advantage over the same car partially loaded with small shipments to various persons; and train-loads running through with grain or coal, it will readily be seen, may be carried and handled at a lower rate per ton per mile than shipments aggregating an equal tonnage switched off at various points and consigned to various parties. The Commissioners of Railroads of Massachusetts, in considering a complaint which was made on this ground of discrimination, not only justify the principle of quantity in reducing rates, but affirm that any other rule would be unjust. "One fact exists," they say, in reviewing a case, "which furnishes strong ground for criticism on the rates which are the subject of complaint. The Boston and Albany does not establish a lower rate for cargoes or large quantities than those fixed for car-loads. . . . The other great roads of the State do have one rate for car-loads and another and lower rate for cargoes, or for some large amount, generally fixed at one hundred tons. The principle on which this difference rests is founded on common sense, and is well recognized in railroad law; and it is recognized by the managers of the Boston and Albany Railroad in some other branches of traffic. Wholesale transactions furnish a reasonable ground for a reduction of rates; and, as the car-load rates of the Boston and Albany must be held as against that company to be reasonable as car-load rates, it follows that as cargo rates they are unreasonable."\* This opinion is affirmed by the same company in their report for the year following, when in referring to the first case they say: "The meaning of the opinion was that it was reasonable to fix a lower rate for large quantities than for single car-loads."† The principle here applied to cargoes and car-loads is generally applied to car-loads as compared to smaller quantities,

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\* "Report," 1881, p. 212.

† "Report," 1882, p. 100.

and as the "car-load rate," though lower than the rate for smaller quantities, has been generally approved, it amounts also to an approval of the principle of lower rates for larger quantities.

The difference in rates on the same thing justified in the difference in quantity is generally charged by those shipping in small quantities to be a discrimination against them as individuals, and so as unjust. But we find a denial of this in the fact that the rule affects *things* which are shipped in large quantities, not *persons* who ship large quantities of the same thing. Grain, provisions, and coal usually form the largest items of tonnage and have the lowest rates, and it is in favor of these things that the greatest discriminations are made. To deny the fairness of the principle would require not only that the various quantities should all take the same rate, but that things themselves should take the rates charged on other similar things which are shipped in smaller quantity. This is a result which some newspapers and politicians imagine would be beneficial; for instance, I read in a daily paper that it is an "outrage" that wheat is carried from the interior to San Francisco at a lower rate than castor-beans. But it is a result which, in the opinion of the Railroad Commissioners of Massachusetts, "would work mischief in some sections, would divert business from the State, paralyze industry, drive away capital, and injure our great interest — labor." \*

The effect of free competition in trade is to bring the greatest competition to bear on those things in which there is the greatest trade. Thus, there is the smallest margin of profit over the cost production on the necessities of life, the next smallest on the common comforts, and the largest on the luxuries. This effect is not caused by any design on the part of traders nor from any beneficent legislation on the part of politicians. It results from the operation of natural laws of trade. The operations of the same laws produce the same effect on the rates of transportation. We find, as a rule, the lowest rates on coal, wood, petroleum, iron, lumber, etc.; the next lowest on flour, grain, provisions, etc.; we then have boots and shoes, cotton and woolen goods, clothing, etc.; and then a varying list of more costly or perishable articles and luxuries which are consumed in decreasing quantities. All the natural forces of competition which tend to reduce the rates of transportation co-operate in producing this discrimination in things which are moved in the largest quantities, and which are, of course, consumed in the largest

Necessaries  
of life take  
the lowest  
rates.

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\* "Report," 1883, p. 26.

amounts. The aim of the railroad manager is to secure the traffic. To do this he must make lower rates on cheap commodities, with those things which comprise the necessities of life. It results in distributing the charges for transportation where they are most easily borne. Not only do the necessities have the lowest rates and the luxuries the highest, but the necessities consumed in the largest quantities have lower rates than those consumed in smaller quantities. We consume more fuel than bread, and more food than clothing, while the rates of transportation follow the opposite order.

This discrimination, though in favor of the necessities and common comforts of life, is none the less a discrimination. It actually results in favoring classes. Those who consume but the necessities, the day-laborers, are the most benefited; the artisans who consume, in addition to the necessities, many of the comforts, the next; and so on as higher wages provide more of the comforts, and these merge into the luxuries. But the objection is frequently raised that the things having the lower rates are favored *at the expense of* the things required to pay the higher rates. That articles at low rates should be carried at the expense of things charged higher rates implies of necessity that the lower rates are below the cost, that the service is performed by the railroad at a loss. If the low-rate traffic is not carried at a loss—if the profit be ever so small—it can not, of course, be at the expense of the things paying higher rates. That the railroad should knowingly perform any part of its service at a loss is an absurdity, unless it be a case of nourishing an infant industry, where a temporary loss is incurred to secure a future gain. Those, indeed, who have been most forward in charging upon the railroads the fault of carrying part of their traffic at the expense of another part, would be the last to assert that the railroads are in the habit of doing a considerable part of their service below cost. This charge is so frequently made, and the facts are so commonly misunderstood, that the subject deserves to be followed further.

We are for the present considering only the discrimination between *things* as determining the rate of their transportation. Discriminations from other causes do not change this result. Competition by other lines between the same points, or to the same market, produces a general reduction in rates, but there remains the same inequality in the particular things shipped. The lowest rates will be given on the staple products of the country which are moved in the largest quantities, and higher rates on merchandise

shipped in smaller consignments. For instance, the chief products of the West—grain, provisions, and flour—are shipped to the seaboard for about one-half the rate charged on miscellaneous merchandise. And this is the same, whether the route be by lake, canal, or any of the various lines of rail.

One of the natural principles of regulating rates which has been mentioned in the power possessed by the railroad of increasing its net income by increasing its traffic at lower rates. This follows from the fact that a large portion of the expenses are fixed—are not changed by the increase or decrease of traffic; so that an augmented traffic adds to but a portion of the expenses of the roads—to those not fixed. The average rate of cost per ton per mile thus decreases, other things equal, as the traffic increases. This result will appear more definite by the use of figures. The census for 1880\* shows that the annual interest, maintenance, and operation charges paid at that time by the railroads of the United States, amounted to about the sum of \$542,000,000, classified as follows :

	Amount.	Per cent.
1. Interest paid on debt †-----	\$187,250,826	34.6
2. General officers, legal expenses, taxes, etc. ....	59,541,684	11.0
3. Maintenance of bridges, buildings, and way.....	85,722,748	15.8
4. Maintenance of engines and cars .....	54,985,340	10.1
5. Conducting transportation .....	88,230,621	16.3
6. Motive power—fuel, engine-men, etc. ....	66,219,576	12.2
Total charges paid .....	\$541,950,795	100.0

It appears from these figures that the fixed expenses of the average railroad in the United States, which are a necessary charge on whatever traffic is carried, are :

1. Interest .....	34.6 per cent.
2. General expenses, taxes, etc. ....	11.0 " "
3. Maintenance of way .....	15.8 " "
4. A portion of the maintenance of rolling-stock, which, if we assume to be one-half, will be.....	5.05 " "

Making a total of ..... 66.45 " "

On the other hand, we have the remaining items which are directly affected by and vary with the particular kind or quantity of the traffic, namely :

\* Vol. IV, "Transportation."

† By adding dividends paid, the item of interest would be considerably increased, giving a larger percentage to the fixed expenses and a smaller to be affected by traffic ; but this would not affect the principle involved.

Conducting transportation .....	16.3 per cent.
Motive power .....	12.2 " "
And say one-half maintenance of rolling-stock .....	5.05 " "
<b>Making a total of .....</b>	<b>33.55 " "</b>

We may say in very general terms, but which are sufficiently accurate to illustrate the principle, that 66.45, or say two-thirds, of the expenses of the railroad are unaffected, or affected in a slight degree, by the quantity of the traffic. With one train or ten trains a day, two-thirds of the expenses would remain without great change. By the increase of traffic the remaining one-third of the expenses would be increased, though still not in proportion to the increase of traffic—as it costs no more for the wages of trainmen, for instance, whether the cars are half-empty or all loaded to their full capacity.

An established traffic, then, which at the rate of one cent per ton per mile would pay all expenses, including interest on the investment, might be increased in volume with an increased cost of but one-third of one cent per ton per mile. All in excess of that sum would be a profit to the company. So a lower class of freight at a rate of one-half a cent, instead of being carried at a loss, or at the expense of the originally established traffic, would not only pay the additional expense incurred in its transportation of one-third of a cent, but a profit also of one-sixth of a cent per ton per mile. This small rate of profit multiplied by many tons may become a greater sum than the higher rate applied to its smaller tonnage. So it comes to pay a great part of the fixed expenses, and by relieving the higher-rate traffic of a portion of that burden, allows reductions in the rates charged on that traffic which theretofore were not possible. The process continues indefinitely. Traffic formerly at higher rates is then stimulated by lower rates, with the hope of increasing its volume, and so of the net amount of profit in its carriage. New industries become possible where the former cost of the service on the movement of their products precluded their transportation. The principle which, in the commencement, led to a discrimination in favor of certain staple commodities, in the end results in reducing the rates on nearly or quite all articles composing the traffic.

The proposition, therefore, that the transportation of things at lower rates is carried at the expense of things at higher rates, though fair in sound, is false in fact. The error is in the assumption that all traffic is alike, that it is the same kind, quantity, and value. Remove these elements, and the proposition becomes a



truism. Remove them, too, and the discrimination disappears. Or, if not, there being no difference in the traffic, the discrimination becomes then unjust. The fallacy of the proposition seems not to have been discovered by many who have been prominent in discussing the question of the regulation of railroad rates. I mean those who have taken a political rather than an economic view of the subject. Following a similar kind of reasoning, they have deduced the unreasonableness of higher rates from the existence of lower rates. "As," they say, "rates on grain, flour, or other things carried at low rates, being voluntarily fixed by the carrier, are presumably fair, it follows that rates not so low are unfair." Here, again, the traffic is conceived of as a mental abstraction which admits of no division or degree; it is always traffic — that is, always the same; while, as a matter of fact, there is a much greater difference in the things than in the discrimination. For, practically, instead of a refined classification, taking into account all differences of value, bulk, quantity, or destructibility, things which are similar in these respects, though not the same, are grouped together in a single class.

The enforcement of uniform rates on all the traffic of a railroad (making a difference only for bulky and perishable articles) is in practice a thing of the past, though with politicians it is still preached. It has, wherever tried, been found not only wanting, but destructive. In Belgium, as most of the railroads were owned and operated by the State, the uniform rate theory was naturally adopted, as upon the face it seemed to be the fairest plan. The effect was the restriction of traffic and the oppression of commerce. After this system had been sometime tried, however, the cause of the restriction was seen to be the lack of discrimination in things, basing the rates upon bulk, weight, and destructibility only, and ignoring the fundamental principle—the *value* of the service.

The result of this experience is thus stated by the Commissioners of Railroads of Massachusetts:

"In 1856, in spite of a considerable increase in the miles of railroad worked, the freight movement of the Belgian railroads was found to have seriously decreased. Instead of making good the deficiency in receipts by increased rates on existing business, the administration met the emergency by accepting all traffic that offered, at greatly reduced special rates. This policy succeeded so well that, in 1861, the principle was adopted as regards minerals and raw materials of

Results of  
Discrimination  
as to things.



a regular low scale of charges, with a reduction according to distance. This resulted in the following year in an increase of 72 per cent. in the tonnage of this class of goods. In 1862 the principle was extended to goods of the next class, with similar results. In 1864 freights were reclassified and the new principle applied to all except the first class, or small parcels which in this country are known as express matter. The result was summed up by the Minister of Public Works as follows: 'In eight years, between 1856-'64, the charges on goods have been lowered, on an average, by 28 per cent.; the public have sent 2,706,000 tons more goods, while they have actually saved more than \$4,000,000 on the cost of carriage, and the public treasury has earned an increased net profit of \$1,150,000.' A further reduction, made subsequently to this statement in 1864, exceeded even these results, and under it the tonnage rose from 4,479,000 tons in 1863 to 6,533,000 in 1864."\*

In this country, an extract from the report of the railroad commissioners of a single State will illustrate the common experience as to the operation of the principle of discrimination in things. The Commissioners of Railroads for Alabama tell us: "A proviso of the first section of the act to provide for the regulation of railroad companies and persons operating railroads in this State, approved February 26, 1881, provides: 'That nothing in this act shall be construed to prevent contracts for special rates for the purpose of developing any industrial enterprise, or to prevent the execution of any such contract now existing.' Whether in pursuance of law, or for the development of their own business, it is usual for such railroad companies to concede such 'special rates' to these 'industrial enterprises' for the purpose of developing and building them up, such as factories, mines, lumber-mills, flouring and grist mills, gas companies, water-works, and other 'industrial enterprises.' These 'industrial enterprises,' as we have stated, have these special rates conceded to them very generally in the different States of the American Union. The products of the labor and skill of these 'industrial enterprises' are in many instances transported to distant markets, and the enterprises themselves are created for the purpose of such competition. Where this is the case, enterprises of this description in Alabama would not enter into this competition with those of other States unless put upon an equal footing with them as is done by these 'special rates'; nor could they maintain their business in competi-

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\* "Massachusetts Report," 1870-'71, pp. 52, 53.

tion with those of other States in the absence of such 'special rates.' And where these 'industrial enterprises' do not enter into the competition in other States—many of them do in Alabama—and in the absence of such 'special rates,' they would not be on equal footing to compete even in this State with enterprises of a similar character in other States, but doing business in Alabama. And in this class of these industrial enterprises where this competition does not exist at all, yet they furnish employment to larger numbers of persons, and confer public benefits in business upon the localities where they exist. It will thus be seen that in the two classes of these 'industrial enterprises' first above named, what would seem to be, to those not familiar with the facts, a special immunity given to them in these 'special rates,' and not accorded to the public generally, is, in fact, nothing more than putting them on an equal footing with similar enterprises in other States, enabling them to fairly compete with such foreign enterprises; while, in the third class, the State and community, as a consideration for the privilege allowed, receive a benefit which is general and permanent. Without such 'special rates,' few of these enterprises could be made profitable, and the most of them would have to be abandoned. We state these facts, for such they are, and not for the purpose of entering into any argument or defense of the system. We found such 'special rates' existing between the railroad companies and these 'industrial enterprises' in the State at the time we entered upon our duties, and many have been made between them since that time. We have examined these 'special rates' very generally and particularly. The railroad companies have furnished them to us for this purpose. We think that in general they are such as are well calculated to develop and build up these 'industrial enterprises.' We have examined them for the purpose of ascertaining whether there was in any of them any 'unjust discrimination,' in favor of any and against others of these 'industrial enterprises,' and thus far we have discovered nothing that can be fairly construed to come within this category. These 'special rates' are, of course, as various as the different kinds of business to which they relate. We have notified the railroad companies that, under the statute, they have the right to make any such 'special rates' of this character as may be agreed upon by them and any of these 'industrial enterprises' in favor of one and against another, and they have all uniformly adopted the same view of this matter. They are matters of contract in every instance, and therefore are not in such shape that they can

be tabulated in this report.”\* The number of these pages might be indefinitely increased by additional quotations from the experience of Europe and America, illustrating the beneficial operation of the principle of discrimination between things in determining the rates of transportation. But enough has been said to show that the principle is based upon commercial necessity, and that under the operation of any other rule the railroad would fall far short alike of achieving its greatest usefulness to its patrons, and of yielding the largest profit to its proprietors.

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\* “Alabama Reports,” 1882, p. 28.

### III.—THE PRACTICE.

#### DISCRIMINATIONS AFFECTING PLACES.

Discriminations favoring places result from the competition existing at the favored points. This is of several kinds: First, the competition of parallel railroad lines or water routes; second, the competition of markets; and, third, the efforts of the railroad company to increase its profits by increasing its traffic at lower rates. These operate, sometimes singly, sometimes by more than one, sometimes all together. They also exist in different proportions, and so the direct effect of one or the other can not, in most cases, be measured.

I. The competition of parallel lines or water courses includes those cases where two or more points on a railroad are accessible also by another railroad or water route. The struggle for the traffic of such a place results in lower rates than to places less favorably situated. If the competition is between railroads alone, the conditions of their service being approximately equal as to cost, agreements are made to abide by established tariffs, and such tariffs may be but little lower than to non-competitive points. There is, then, but little discrimination. But sooner or later the struggle for the traffic leads one road to cut the tariff rates; the other retaliates by a greater cut, and this often ends in a reckless war of rates. After the excitement of such a contest has somewhat passed away, the injuries inflicted become more felt, till at length reason leads to a restoration of the tariffs. During such a contest there is an unreasonable discrimination, as the rates are frequently less than the cost of the service. The only solution of the problem which has yet been found is to remove the incentive to cut the rates by fairly dividing the traffic between the competing lines. The common method of accomplishing this is to pool the receipts and to redistribute them on percentages based upon experience and decided by an arbitrator. This is the only instance, so far as I am informed, in which the natural principles regulating the rates of transportation lead to an unjust discrimination; and in this case the loss to the railroads, by carrying the traffic for less than cost, is perhaps greater than the injury to the community by the disturbance of values and the oversupply which accompanies such contests.



So far, then, as the competition at a given place between railroads alone is concerned, the discrimination is regulated to a great extent by the harmonious working of the roads themselves. In competition with water routes, however, on account of the inequality of their circumstances as to the cost of the service and the ease of adding new competitive boats, a discrimination must always exist. It is beyond the power of the railroad or any person or other body to prevent it, except by the heroic remedy of interdicting the traffic by rail. The water route is free to all, its highway is furnished by nature, and the carriage is the only item of cost which must be borne by the traffic. The railroad company, on the other hand, has two existences: it is the owner of a public highway, and is a common carrier. The rate of transportation is thus composed of the toll for the use of the highway, and the charge for the service of carriage. This is a distinction which is not made in the popular mind, though it is always recognized by the law, and is important to bear in mind in the present instance, for it affords a justification of the discrimination made in favor of places having water competition, besides that contained in the necessity of the discrimination to secure the traffic.

We may take first the simple case of those places having no unusual amount of traffic, and located anywhere on the line of road, either local stations or through points, the only peculiarity about them being that they are on a competitive water route. In those other cases where the favored places are great markets as well as competitive points, the problem becomes more complicated and will be considered afterward. On many large railroads there are stations of no particular importance in size which may also be reached by a river or by the sea. As they are not markets for any considerable territory, but have grown from restricted local requirements, they are not to be compared with other important depots on the same water route. Such a place offers no more traffic to the railroad than many other local stations to which the railroad is the only means of transportation. The argument, then, that the railroad should reduce its rates on account of an unusually large traffic, is foreign to the fact. The shippers simply demand that rates shall be unusually low, or the traffic will take the route by water. The terms offered to the railroad are, to take the traffic, say for illustration, at one-half the rates which are charged to other places on the road of equal distances, or not to take it at all. Now, in considering the discriminations between things, we have seen that in taking traffic thus offered, as compared with not

taking it, the only items of expense which would be affected are connected with the cost of carriage. In either case the fixed charges must be borne by the remaining traffic. And we have also shown, in illustration, that the fixed charges in the average case may be roughly stated at two-thirds of the total cost, so the traffic offered at half rates would afford a small profit above the cost of carriage. To the railroad, then, the case resolves itself into the simple question whether it will take what it can get, or go without. There is no hesitation as to the decision: the rate demanded is given from necessity.

That this is a source of no injustice to the less fortunately located places is shown from their history. Before the construction of the railroad the non-competitive points—or as many as existed at that time—were supplied with transportation solely by the slow and expensive means of animals and wagons. The construction of the railroad reduced the time and the cost of transportation to a fraction of the former amount. Along the line new towns sprang up, and both the old and the new increased in population and prosperity by the impulse to production and industries furnished by cheaper and quicker transportation. By the construction of the railroad the places which existed before increased many times in wealth and population, while to the same cause the numberless other places owe their existence. These facts are among the most prominent of the unprecedented material development of this country during the last half century. The railroad has been to the inland places of immeasurably more benefit than to any others. It is, in fact, for these that it was constructed. The places on the water routes were already supplied with a cheap and sufficiently rapid means of transportation; they were but incidentally passed by the railroad in the course of its extension. With the water route the highway is furnished by nature, to the inland place it is supplied by man. The traffic must in each case alike pay the cost of carriage; but, the water route being free to all, no toll to points on it can be charged on any highway. As the railroad was not built for the traffic of such points, which were, before its construction, provided with transportation facilities, but was for those places to which the highways of nature did not extend, there seems no injustice in charging the expenses of the highway to the place for which it was constructed.

It is sometimes stated that non-competitive points should have rates as low as are made to competitive points; and the reason is

Local stations'  
relation to the  
railroad.

repeated that the latter rates, which are voluntarily made by the railroad, being presumably fair, it follows that the former rates, being higher, are unfair. But, if the traffic between all points paid but the cost of carriage, there would remain no provision for the highway and the necessary fixed charges. A rigid rule, then, preventing the discrimination between these places would leave the railroad the alternative of raising the rates at the competitive points, thus losing that traffic altogether; or reducing to a little more than the cost of carriage the rates at the non-competitive points, and so losing the greater portion of its income.

II. The competition in markets is a second cause of discrimination between places. A market, to be such, must be accessible from sources of supply. Its facilities for transportation must then be in proportion to its importance. Now, the great market cities of the world were established before the application of steam to transportation by land. It is a familiar fact that the commercial cities of the world are either on rivers or the sea; so it follows that the markets come in competition with water-routes, and usually also in competition with other railroads. But the competition is more than by parallel routes carrying traffic for equal or nearly equal distances. To reach the market at all with an article produced on the line of a railroad, it must be carried at a low enough rate to enable it to be sold in competition with the same article produced perhaps much nearer the market. Grain carried five hundred miles can sell for no more than grain carried fifty miles, and, if the conditions of production are the same, the carrier must place them on an equality as to transportation. A long haul has thus to compete with a short haul, or abandon the market. If discriminations in favor of markets were not permitted, no grain could go *by rail* from Chicago and the West to the Atlantic seaboard and to Europe. But the discrimination would be made as it always has been made by the water-routes through the lakes and the St. Lawrence or Erie Canal, or down the Mississippi to New Orleans. The water-routes, however, have not an equal interest in developing the country that the railroads have; and, without the competition introduced by the latter, the rates by water would be greater than they are, and the countries whose shores they wash would be comparatively undeveloped. The railroad, in developing the resources of the country which it serves, not only secures thereby more traffic, which at the time adds to its net income; it increases as well the value of all its property. The highway being made by the rail-

Competition  
favoring large  
markets.



road, and representing a large investment, a wise policy leads to the establishment of such rates as will add to its permanent value. A temporary rate at but the cost of carriage, if necessary to establish or develop an infant industry which would in future furnish a profitable traffic, is thus justified by self-interest. To a steamer or vessel on the lakes, on the other hand, the development of the surrounding territories means but additional competition; an increase of traffic is met by an increase of boats. Their policy is to take from the traffic at the time all that can be secured, for tomorrow it will be carried by some one else.

The new supply brought to the market from a distance reduces the selling price of the article in the market, a result unfortunate to those producers nearer the market, who theretofore monopolized the trade, but fortunate for those at a greater distance who would otherwise have no market, or a more restricted one, for their products. The more important result, however, is to the general public, who are benefited through the discrimination by a reduction in the cost of the necessities and common comforts of life; for the articles carried to the markets in the greatest quantities are those which are consumed in the greatest quantities—they are the necessities and common comforts; and, as has been already shown, it is in favor of these things particularly that discriminations are made.

III. A third cause of discrimination between places is found in the volume of the traffic. The effort of the railroad to increase its profits, by increasing its traffic through the incentive of lower rates, has already been dwelt upon in considering discriminations between things. It affects places as well. It is the principle of development, and so works upon all the traffic of a railroad and between all places. But it affects most those things or places in which there is the possibility of the greatest development. A familiar illustration of the operation of this rule is the suburban passenger traffic which has been already mentioned. The possibility of developing the travel between a great city and its suburbs is practically unlimited; accordingly every incentive is offered as to frequent and rapid trains and low rates. But between two small towns the same service and rates would be a manifest absurdity. No possible inducement, short of a payment to the passenger instead of a charge, could make any material increase in the travel, except that which slowly results from the natural increase of wealth and population. Similar causes affect the rates on freight. As things consumed in the

Discrimina-  
tions to de-  
velop traffic of  
places.



largest quantities, in which the traffic is most capable of development, are the most favored as to rates, so also are places which consume or are markets for the greatest quantities of things. In all cases when discriminations of this nature are made in freight rates, it is where the lower rates will afford a larger net profit than a higher rates, by an increase of traffic in a greater ratio than the increase of expense. Such low rates, then, can not be at the expense of higher rates to other places. Though they may be below the average rate of cost of the entire traffic, they are never knowingly less than the *cost of carriage* of the particular tariff.

These several causes requiring discrimination between places, viz., parallel roads or water-routes, competition of markets, and the efforts of the railroad to increase its profit by increasing its traffic at lower rates, are, in the popular mind, considered without distinction; the discrimination is as to through or <sup>Through and</sup> local traffic. This distinction is in accord with usual <sup>Local Traffic.</sup> result, for through points are, in nearly all cases, the places where the most active competition of all kinds is in force. The usual termini of railroads are large cities; these again are usually on water-courses, and are usually also the chief markets reached by the road. But such is not always the case, and, when it is not, the rates will be found to be modified in accordance with the number of these forms of competition there in force, and the greater or less strength with which they exist.

This general classification of the traffic into through and local suggests a further reason why the competitive rates might fairly be expected to be lower than the local. Through points — the termini of the road — afford the longest haul, and traffic carried a long distance is, like that carried in large quantities, at a lower rate of cost per mile than that carried shorter distances. The traffic between terminal stations is usually much greater than that between any other two stations; cars are therefore loaded to their full capacity. The load at the end of the long haul is discharged, and with a delay of perhaps a day may be loaded again and returned. The local traffic is in small quantities, the car is but partly loaded, or if fully loaded the delay in unloading is as great as though it went through to the terminal station. The way-station, in the large majority of cases, affords no return load, so that the haul to some station where the car is needed, as well as the delay caused thereby, must be added to the expense. Add to these differences the difference in the volume of the traffic, and it

will be readily seen that the cost per mile on through can not be but a fraction of what it is on local traffic.

Although the constant play of these competitive forces results in reducing through rates to a very low point, it deserves to be

Reduction in local rates. noticed that in local rates there is as well a constant though less rapid tendency to reduction. Wherever

no more active forces of competition are in operation, the effort on the part of the railroad to develop the production and resources of the country by stimulating rates, and so increasing the profits and the value of the property of the company, is a cause which works constantly towards reductions. This fact is illustrated by the Railroad Commissioners of Iowa, who, in their report for 1881, occupy forty-six pages with tables and statements showing the reductions in rates in that State, in which they particularly call attention to the fact that "the reduction is not confined to the through traffic; it applies, in a somewhat smaller ratio, it is true, to the local traffic as well" (p. 7). And they conclude their remarks upon the subject as follows: "We venture to say that this average percentage of reduction for the last fifteen consecutive years will be a matter of no little surprise to everybody who does not make the study of freight traffic a somewhat regular habit. Although we have made no calculation to demonstrate it, we venture to affirm that an equal average reduction in the cost of any kind of service for which the people pay a money consideration can not be found during the past fifteen years" (p. 35).

It will be seen from the foregoing that discriminations affecting places are made by nature. The distribution of land and water on the face of the earth produces a discrimination against inland places and in favor of those located on water-courses or

Nature discriminates against places. the sea. The accessibility or inaccessibility of these places on the highway furnished by nature is the basis of the discriminations affecting them on the highway

supplied by man. The rapid and cheap communication afforded by railroads has introduced a strong competitor to the water-routes, and has to a great degree reduced the inequality established by nature. But with the water-routes the highway is supplied without cost, its use is free; the *carriage* only is the charge upon the traffic. The cost of transporting by water is thus cheaper than by land, and this must always prevent the local inland rates by rail from being as low as the rates on the free water-routes.

If rates are not to be based on the principles by which, in compliance with the demands of commerce, they have heretofore



been determined; if those discriminations only are to be considered fair which are based on the bulk and destructibility of articles; then the single rule remaining to apply to the discrimination of rates is that of distance—the mileage basis.

The advocates of State interference in the regulation of rates seem to be possessed with the conviction that the true basis of charge is the cost of the service, and they labor under the common error that the mileage basis is a practical method of determining this. It will be found, however, that the rates <sup>Equal mileage rates.</sup> determined by the operation of commercial requirements will coincide more nearly with the cost of the service than can be the case with any artificial system which does not recognize, as elements fairly affecting rates, the value of the service, the volume of the traffic, and the competition of other routes. If the railroad is not allowed to take traffic, which can not afford to pay the standard rate, at whatever rate it can afford, if it charges more for certain traffic than the value of the transportation to the shipper, that traffic is lost. Now, the traffic that can afford to pay but very low rates is composed of things that are of low price; such as I have already mentioned, are the necessities of life. These things form a much greater portion of the company's traffic than any other equal number of articles. Grain, for instance, from the fields of production in the West is carried to Chicago or St. Louis entirely by car-loads, and is forwarded thence by the train-load. Coal, petroleum and provisions in some cases afford a regular traffic by the trainload. These articles being carried in large quantities are, as has been shown, carried at a much less rate of *cost* than things shipped in small quantities. The cost of the service thus bears an approximate relation to the rate of charge. Again, the volume of the traffic is a cause of discrimination, if by reducing the rate the traffic can be sufficiently increased to produce a greater net profit. And, again, it follows that the rate of *cost* decreases with the reduced rate of *charge*. In the reduction to meet the competition of other lines to the same market, the discrimination is also made to get the traffic which could not otherwise be secured. And the result, again, is a reduction in the rate of cost of the service by the greater traffic usual to those markets or centers of industry which are favored by the discriminating rate.

Indeed, it has sufficiently appeared that all discriminations are made to increase traffic, and those things and places are favored most which furnish the largest traffic. Now, as a larger traffic is

carried at a less rate of cost, it follows that there is a constant and fundamental relation between the cost of the service and the rate of charge. There is, in fact, as close a relation as it is possible to establish between them by any system but one which would be prohibitory to a great portion of the traffic. The mileage basis of rates, however, has and continues to find many advocates, yet its impracticability has been so often illustrated that but brief mention of it seems here to be called for. Where all circumstances of value, cost, competition, and quantity are equal, a mileage rate is now applied by railroads, only reducing the rate per mile gradually as the length of haul increases, thus making the rate conform more nearly to the cost of service than if the same rate per mile were applied for all distances. This is as near as it is practicable to apply the principle, and is the rule so far as my information extends, on all American roads, as it is also on European roads, operated both by private corporations and by governments. But where the circumstances of cost, competition, quantity, and value are different, that is, for the greater portion of the traffic, the principle would result in prohibition. From the preceding pages this result appears to me so apparent as to need no further comment. A statement before me, however, of an impartial and informed body (the select Committee of the Parliament of Great Britain on fares and rates of 1882), is so clear and forcible an exposition of this point, and at the same time affords an illustration of much that has herein been said on the subject of discrimination in general, that I am led to make from it the following quotation: "The form which the proposal for a fixed standard of charges has usually taken is equal mileage, i. e., a charge for each class of goods and passengers in proportion to the distance for which they are carried." This point was strongly urged before the Royal Commission, and is so effectually disposed of by their report that it seems scarcely necessary to dwell upon it further. But it reappears in the evidence of some of the witnesses before this committee, and it may therefore be desirable to state shortly why it is impracticable:

Equal mileage  
rates  
in England.

"(a.) It would prevent railway companies from lowering their fares and rates, so as to compete with traffic by sea, by canal, or by a shorter or otherwise cheaper railway, and would thus deprive the public of the benefit of competition, and the company of a legitimate source of profit.

"(b.) It would prevent railway companies from making per-

fectly fair arrangements for carrying, at a lower rate than usual, goods brought in larger and constant quantities, or for carrying for long distances at a lower rate than for short distances.

“(c.) It would compel a company to carry for the same rate over a line which has been very expensive in construction, or which, from gradients or otherwise, is very expensive in working, at the same rate at which it carries over less expensive lines.

“In short, to impose equal mileage on the companies would be to deprive the public of the benefit of much of the competition which now exists, or has existed, to raise the charges on the public in many cases where the companies now find it to their interest to lower them, and to perpetuate monopolies in carriage, trade, and manufacture, in favor of those rates and places which are nearest or least expensive, where the varying charges of the companies now create competition. And it will be found that the supporters of equal mileage, when pressed, really mean, not that the rates they pay themselves are too high, but that the rates that others pay are too low. Pressed by these difficulties, the proposers of equal mileage have admitted that there must be numerous exceptions, e. g., where there is sea competition (i. e., at about three-fifths of the railway-stations of the United Kingdom), where low rates for long distances will bring a profit, or where the article carried at low rates is a necessary, such as coal. It is scarcely necessary to observe that exceptions such as these, while inadequate to meet all the various cases, destroy the value of equal mileage as a principle, or the possibility of applying it as a general rule.”\*

Tariffs of rates have, however, been established without discrimination, but their workings have shown that they were established with as little discretion as discernment. An illustration of such a case is afforded by the experience of Germany, the history of which is given in the testimony <sup>Through and local traffic in Germany.</sup> before the committee on fares and rates of the Parliament of Great Britain above referred to. The Government, in conformity with its military spirit, which admits of only unquestioning obedience to arbitrary orders, enforced on the railways a uniform and unvarying system of charges. Having fixed the tariffs in its own country at rates which to it were satisfactory, it adopted the principle that no through rates should be given except on the basis of these local charges. Thus traffic, for instance, between Belgium, or Holland and Austria, might be brought up to the Ger-

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\* Report to the House of Commons, July, 1882, p. ix.

man frontier at whatever rate those states chose to fix, but, immediately upon entering on German territory, the local tariffs should apply. As a result, the through traffic was driven from the railroads to the rivers, and exports from Austria found their way to the sea on the Elbe and the Rhine. After the enforcement of the policy had "utterly destroyed" this through traffic on the German railways, the administration decided to profit by the experience to abandon their unnatural policy, and attempt to get back the traffic. Accordingly, they issued a tariff, which is instructive as showing how completely they gave up their artificial system and recognized in railway rates the natural forces controlling commerce. The heading of the tariff reads: "Exceptional tariff to and from the German seaports, for goods traffic between Hamburg, Harburg, Bremerhaven, Geestemünde, Bremen, and Regensburg and Passau stations. To come in force on and from March 1, 1882. This tariff will apply only to goods traversing Germany and passing beyond Regensburg and Passau, and out of the district of the German customs, and in consignments of ten tons per truck and above (wool excepted). Smaller consignments will be charged at the usual rates. Articles included in the exceptional tariff." It then continues to enumerate articles under seven "special tariffs." The testimony before the commission on this subject concludes as follows: "Now that shows that the strongest government in the world, I suppose, can not interfere with the course of traffic except at its peril, and, if they attempt to impose upon the commerce of the country an impossible system, they come to grief." \*

I have attempted to show that the rates on railroads are regulated by natural principles of competition, and that it is from the operation of these principles that discriminations are produced. This is but saying, in other words, that discriminating rates result from competition. An examination of the cases reported by the various State Railroad Commissioners will show that this is true; for it will be found that the discriminations effect a reduction in rates, not an increase. They are concessions made to secure traffic which at former rates would not be carried. If this were not at least believed to be the result, there would appear no incentive for the company to make the reduction. In brief, the cause of discrimination is competition, the effect is reduction.

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\* Report to the House of Commons, July, 1882, pp. 170, 171.



